

PRESENTING: THE ATARI 1200!

INTRODUCTION -- PAUL

PHYSICAL APPEARANCE -- PAUL

VARIOUS PORTS
SINGLE CARTRIDGE SLOT
TWO GAME CONTROLLERS
(SLIGHTLY) MODIFIED SERIAL BUS
REARRANGEMENT OF KEYBOARD
NEW KEYS AND LEDS
POWER-UP LOGO
HELP KEY
SELF-TEST

INTERNAL DIFFERENCES -- SCOTT

PIA PORT B
SHADOW ROM ENABLE (2K)
O.S. ROM DISABLE
LED CONTROL
RESET MOVED FROM NMI TO 6502 RESET
NO BUILT-IN SPEAKER
"64K" RAM

FUNCTION KEYS -- HARRY

CURSOR UP/DOWN/LEFT/RIGHT
AUGMENTED CURSOR CONTROL
KEYBOARD ENABLE/DISABLE
DMA ENABLE/DISABLE
KEY CLICK ENABLE/DISABLE
INTERNATIONAL/DOMESTIC CHARACTER SET
HELP KEY

KEYBOARD HANDLER -- HARRY

KEY REASSIGNMENT
VARIABLE AUTO-REPEAT RATE
CAPS KEY TOGGLE ACTION
REMOVE 'STA WSYNCH' FROM CLICK

SCREEN EDITOR -- HARRY

FINE SCROLLING

DISPLAY HANDLER -- HARRY

NEW SCREEN MODES (HDWR 4,5,C,E)

POWER-UP AND RESET -- SCOTT

RAM AND ROM TESTS
OPTION JUMPERS
MEMORY SIZING
NON-CLEARING VARIABLES
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INTERRUPT HANDLING -- SCOTT

CARTRIDGE INTERLOCK
CLD
DLI FOR FINE SCROLLING

PAL/NTSC -- SCOTT

HANDLER LOADER AND RELOCATING LOADER -- SCOTT

HOW TO TELL 1200 O.S. FROM REV A FROM REV B -- SCOTT

ROM I.D.

BUG FIXES AND MINOR AUGMENTATIONS-- SCOTT

WRITE SECTOR (NO VERIFY)
EOL ON TRUNCATED RECORD AND EOF
PRINT BUFFER TERMINATION ON CLOSE
PRINTER UNIT NUMBER
VARIABLE LENGTH DISK SECTOR SIZE
ELIMINATE MEMORY CLEARING ABOVE SCREEN
SCREEN CLEAR ACCEPTED BY S: NO MATTER WHERE CURSOR IS
NEW POKEY RESET SEQUENCE
FPP LOG(0)

COMPATIBILITY -- HARRY

O.S. ROM ISSUES
SUBROUTINE ENTRY POINTS
CALLING SEQUENCE COMPATIBILITY
DATA TABLE LOCATIONS
FUNCTIONAL SUPERSET
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O.S. DATABASE REORGANIZATION TRANSPARENT
GAME PORT SHADOWING
MOVING ONLY INNOCUOUS VARIABLES
SCREEN DATA / DISPLAY LIST SIZE AND FORMAT UNCHANGED
HARDWARE ISSUES
PIA PORT B

SUMMARY -- PAUL

PRODUCTION RAMPUP
PRICE
AVAILABILITY
PACKOUT
DOCUMENTATION

FUNCTION KEYS

CURSOR UP/DOWN/LEFT/RIGHT (F1, F2, F3, F4)

F1 = cursor up.
F2 = cursor down.
F3 = cursor left.
F4 = cursor right.

AUGMENTED CURSOR CONTROL (SHIFT-F1, F2, F3, F4)

SHIFT-F1 = cursor to top left corner.
SHIFT-F2 = cursor to bottom left corner.
SHIFT-F3 = cursor to left margin of current line.
SHIFT-F4 = cursor to right margin of current line.

KEYBOARD ENABLE/DISABLE (CTRL-F1)

CTRL-F1 toggles the option.
Program control: KEYDIS [026D] = 0 to enable keyboard,
\$FF to disable.

DMA ENABLE/DISABLE (CTRL-F2)

CTRL-F2 disables the DMA, any other key enables.

KEY CLICK ENABLE/DISABLE (CTRL-F3)

CTRL-F3 toggles the option.
Program control: NOCLIK [02DB] = 0 to enable clicks,
\$FF to disable.

INTERNATIONAL/DOMESTIC CHARACTER SET (CTRL-F4)

CTRL-F4 toggles the option.
Program control: CHBAS [02F4] = \$CC for intrntnl chars,
\$E0 for domestic chars.

HELP KEY

Program control: HELPG [02DC] = 0, \$11, \$51 or \$91,
user resets flag to 0 after recognition.

KEYBOARD HANDLER

KEY REASSIGNMENT

"All" keys: KEYDEF [0079] = pointer to key definition table.
Function keys only: FKDEF [0060] = pointer to func key table.

VARIABLE AUTO-REPEAT RATE

Initial delay parameter: KRPDEL [02D9] = delay ticks.
Auto-repeat rate parameter: KEYREP [02DA] = repeat ticks.

CAPS KEY TOGGLE ACTION

CAPS without SHIFT or CNTL toggles between uppercase and lowercase.

SCREEN EDITOR

FINE SCROLLING

Program control: FINE [026E] = 0 for coarse scroll, or
\$FF for fine scroll,
prior to E: OPEN.

DISPLAY HANDLER

NEW SCREEN MODES (HDWR 4,5,C,E)

Program control: AUX2 mode = 12, 13, 14, or 15 (decimal).

GET CHARACTER DATA FORMATS

	7	0
	+--+--+--+--+--+--+--+	
Modes 12,13 -- M = color	M	D
modifier	+--+--+--+--+--+--+--+	

D = truncated ATASCII

	+--+--+--+--+--+--+--+	
Mode 14 -- D = color		zero D
	+--+--+--+--+--+--+--+	

	+--+--+--+--+--+--+--+	
Mode 15 -- D = color		zero D
	+--+--+--+--+--+--+--+	

PUT CHARACTER DATA FORMATS

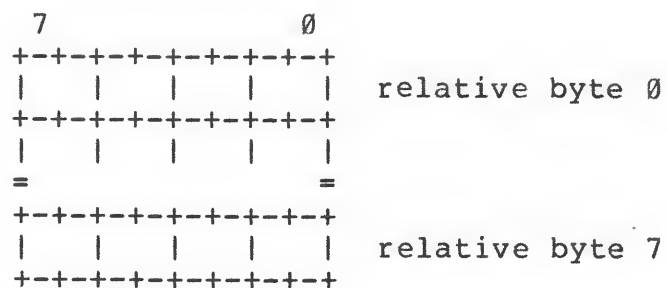
	7	0
	+--+--+--+--+--+--+--+	
Modes 12,13 -- M = color	M	D
modifier	+--+--+--+--+--+--+--+	

D = truncated ATASCII

	+--+--+--+--+--+--+--+	
Mode 14 -- D = color		? D
	+--+--+--+--+--+--+--+	

	+--+--+--+--+--+--+--+	
Mode 15 -- D = color		? D
	+--+--+--+--+--+--+--+	

CHARACTER DEFINITION FORMAT FOR MODES 12 & 13



Each 2-bit color specification in the character definition maps to the color registers as shown below:

- 0 = BAK
- 1 = PF0
- 2 = PF1
- 3 = PF2 if bit-7 of color modifier = 0, or
PF3 if bit-7 of color modifier = 1.

Appendix H (new modes)

Mode #	Horiz. posit.	Vert. w/o sp	Vert. w sp	Colors	Data value	Color reg.	memory reqd. (split)	(full)
12	40	24	20	5	00-7F	*	1154	1152
13	40	12	10	5	00-7F	*	664	660
14	160	192	160	2	0 1	BAK PF0	4270	4296
15	160	192	160	4	0 1 2 3	BAK PF0 PF1 PF2	8112	8138

* See CHARACTER DEFINITION FORMAT FOR MODES 12 & 13.

DATA BASE CHANGES FROM REV. B TO 1200

LOCATION	REV.B USE	1200 USE
0000	reserved	LNFLG -- for inhouse debugger.
0001	"	NGFLAG -- for power-up self test.
001C	PTIMOT -- to 0314	ABUFPT -- reserved.
001D	PBPNT -- to 02DE	"
001E	PBUFSZ -- to 02DF	"
001F	PTEMP -- eliminated	"
0036	CRETRY -- to 029C	LTEMP -- loader temp.
0037	DRETRY -- to 02BD	"
004A	CKEY -- to 03E9	ZCHAIN -- handler loader temp.
004B	CASSBT -- to 03EA	"
0060	NEWROW -- to 02F5	FKDEF -- func key def ptr.
0061	NEWCOL -- to 02F6	"
0062	"	PALNTS -- PAL/NTSC flag.
0079	ROWINC -- to 02F8	KEYDEF -- key def ptr.
007A	COLINC -- to 02F9	"
0233	reserved	LCOUNT -- loader temp.
0238-0239	"	RELADR -- loader.
0245	"	RECLN -- loader.
0247	LINBUF -- eliminated	SPLTM0 -- reserved.
0248-026B	"	reserved.
026C	"	VSFLAG -- fine scroll temp.
026D	"	KEYDIS -- keyboard disable.
026E	"	FINE -- fine scroll flag.
0288	CSTAT -- eliminated	HIBYTE -- loader.
028E	reserved	NEWADR -- loader.
029C	TMPX1 -- eliminated	CRETRY -- from 0036.
02BD	HOLD5 -- eliminated	DRETRY -- from 0037.
02C9-02CA	reserved	RUNADR -- loader.
02CB-02CC	"	HIUSED -- loader.
02CD-02CE	"	ZHIUSE -- loader.
02CF-02D0	"	GBYTEA -- loader.
02D1-02D2	"	LOADAD -- loader.
02D3-02D4	"	ZLOADA -- loader.
02D5-02D6	"	DSCTLN -- disk sector size.
02D7-02D8	"	ACMISR -- reserved.
02D9	"	KRPDEL -- auto key delay.
02DA	"	KEYREP -- auto key rate.
02DB	"	NOCLIK -- key click disable.
02DC	"	HELPPG -- HELP key flag.
02DD	"	DMASAV -- DMA state save.
02DE	"	PBPNT -- from 001D.
02DF	"	PBUFSZ -- from 001E.
02E9	"	HNDL0D -- handler loader flag.
02F5	"	NEWROW -- from 0060.
02F6-02F7	"	NEWCOL -- from 0061.
02F8	"	ROWINC -- from 0079.
02F9	"	COLINC -- from 007A.
030E	ADDCOR -- eliminated	JMPERS -- option jumpers.

0314	TEMP2 -- to 0313
033D	reserved
033E	"
033F	"
03E8	"
03E9	"
03EA	"
03EB	"
03ED-03F8	"
03F9	"
03FA	"
03FB-03FC	"

PTIMOT	-- from 001C.
PUPBT1	-- power-up/RESET.
PUPBT2	-- "
PUPBT3	-- "
SUPERF	-- Screen Editor.
CKEY	-- from 004A.
CASSBT	-- from 004B.
CARTCK	-- cart checksum.
ACMVAR	-- reserved.
MINTLK	-- "
GINTLK	-- cart interlock.
CHLINK	-- handler chain.

This is a summary of the more important rules to be followed in order to attain software that will be compatible with all revisions of the Atari 400/800/1200 operating systems and future compatible operating systems.

1. System calls to O.S. routines shall utilize only "advertized" entry points and vectors. These addresses are provided in Appendix J of the OPERATING SYSTEM USER'S MANUAL, and they fall in two address regions: 1) E400-E47F (Rev A/B) or E400-E4A0 (1200) for the operating system, and 2) D800-DFFF for the floating point package.

2. The screen character set definitions are at locations E000-E3FF (domestic character set) and CC00-CFFF (international character set -- 1200 only).

3. There are no user accessible tables or constants in the Rev A/B operating system ROM aside from those already mentioned.

4. Operating system database variables that are user alterable and/or readable are described in the OPERATING SYSTEM USER'S MANUAL. These variables may be utilized as described in the manual. Additional information regarding the operating system database may be found in De Re Atari and in the HARDWARE MANUAL.

5. RAM vector contents must be saved prior to being altered if they are to be restored by the user. The "initialization values" given in section 6 of the early versions of the OPERATING SYSTEM USER'S MANUAL are not valid for the 1200.

6. There are no spare locations in the operating system database (0000-007F, 0200-047F).

7. The database was altered from Revision A to Revision B, and again from Revision B to 1200. No user access variables were moved in either case, but other (internal or temporary) variables were moved.

8. Programs should conform to the interfaces described in the OPERATING SYSTEM USER'S MANUAL with regard to:

- Power-up initialization (coldstart).
- RESET initialization (warmstart).
- Interrupt processing.
- System timer utilization.
- I/O operations.
- Floating point operations.
- Memory management.

9. Programs should not rely upon "side effects" of system functions. The interface for each operating system function is documented; "bonus" features such as finding a useful constant

in a register upon return cannot be relied upon unless it is explicitly stated as being part of the calling sequence.

10. Features of new operating systems, which are not supported in older operating systems, may be used if any of the following criteria are met:

The option is ignored by the older operating systems and an attempt to invoke it produces no harmful effects.

The application uses the feature only after determining that the resident operating system supports the feature.

The application is specifically targeted for the newer machines, and marketing has determined that compatibility is not a requirement for the product.